

ABSTRACT

A filter device made of less expensive material than comparable filter devices heretofore has basic filter components plus some unique design aspects and an additional ring component. The ring provides an interface inside the filter which enables the potting compound to adhere to the filter and create a seal between a first and second fluid compartment within the filter. An embedded region of the ring possesses a detailed geometry which helps ensure that a delamination would be localized and unable to propagate from the first to the second compartment, maintaining the structural integrity of the filter device. To ensure that the sealing interface remains intact and free from delamination, the ring is subjected to a surface treatment, which modifies the surface energy of the ring. This modified surface energy of the ring allows the hydrophilic potting compound to more effectively bond to the modified hydrophobic ring.